LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claim in the application:

1. (currently amended) ~~An~~ A prosthetic endplate in an intervertebral motion disc having an anterior end and a posterior end, the endplate ~~disc~~ comprising:

~~a) a first prosthetic endplate comprising:~~

i) an outer plate comprising an outer surface adapted for fixation to a first vertebral body, an inner surface, and a body portion therebetween,

ii) an inner plate comprising an inner surface having a first articulation surface, an outer surface, and a body portion therebetween,

iii) means for selectively adjusting a relative position of the inner plate upon the outer plate~~,~~

~~b) a second prosthetic vertebral endplate comprising:~~

~~i) an outer surface adapted to mate with a second vertebral body, and~~

~~ii) an inner surface comprising a first articulation surface,~~

~~c) a core member comprising:~~

~~i) a first articulation surface adapted for articulation with the first articulation surface of the first endplate, and~~

~~ii) a second articulation surface adapted for articulation with the first articulation surface of the second endplate,~~

~~wherein the core member is oriented to produce a first articulation interface between the first articulation surface of the first endplate and the first articulation surface of the core member, and a second articulation interface between the first articulation surface of the second endplate and the second articulation surface of the core member~~

wherein the means for selectively adjusting a relative position is disposed upon the inner surfaces and comprises an elongated channel and an elongated projection adapted to mate with the elongated channel,

wherein the elongated projection comprises a threaded throughhole running in the direction of the elongation,

wherein the means for selectively adjusting a relative position further comprises a captured screw disposed within the throughhole, the screw having an elongated shaft and a threadform thereon, the threadform being complimentary to the threaded throughole,

wherein the channel comprises means for capturing the screw,

wherein the screw comprises a longitudinal shaft having a thread thereon, a blunt distal tip, and a proximal head having a slot, the elongated shaft comprising a recess adapted for reception of a locking clip,

wherein the elongated channel further comprises an anterior recess and a posterior recess defined by necks in the elongated channel,

wherein the blunt distal tip and the proximal head of the screw are respectively seated in the anterior recess and the posterior recess to render the screw captured and spatially fixed save rotation.

2. (canceled).

3. (currently amended)The endplate of claim ~~2~~ 1 wherein the elongated channel is formed upon the inner surface of the outer plate and the elongated projection is formed upon the inner surface of the inner plate.

4. (currently amended) The endplate of claim ~~2~~ 1 wherein the elongated channel is formed upon the inner surface of the inner plate and the projection is formed upon the inner surface of the outer plate.

5. (canceled).

6. (canceled).

7. (canceled).

8. (canceled).

9. (currently amended) The endplate of claim ~~8~~ 1 wherein the means for capturing comprises a recess in the channel.

10 (currently amended)The endplate of claim ~~8~~ 1 wherein the means for capturing comprises a shoulder in the channel.

11 (currently amended)The endplate of claim ~~8~~ 1 wherein the means for capturing comprises a shoulder extending from the elongated shaft of the screw.

12 (canceled).

13 (currently amended)The endplate of claim ~~7~~ 1 wherein the screw further comprises a head selected from the group consisting of a slotted head, an Allen head, a Torx.sup.R head, a Phillips head, and a Robertson.sup.R head.

14 (withdrawn)The endplate of claim 5 wherein the screw further comprises a magnetic portion.

15 (currently amended)The endplate of claim ~~7~~ 1 further comprising: iv) a locking means for locking the screw.

16 (original)The endplate of claim 15 wherein the locking means comprises a cam.

17 (withdrawn)The endplate of claim 15 wherein the locking means comprises a hinged lever.

18 (withdrawn)The endplate of claim 15 wherein the locking means comprises a screw.

19 (currently amended) The endplate of claim ~~2~~ 1 wherein the elongated projection runs in the anterior-posterior direction.

20 (withdrawn) The endplate of claim 2 wherein the elongated projection runs in the medial-lateral direction.

21 (original) The endplate of claim 1 wherein the projection has a side wall, and wherein the endplate further comprises: iv) a moveable plate disposed within the channel and fixed to the side wall of the projection.

22 (withdrawn) The endplate of claim 21 wherein the projection has a side wall, and wherein the endplate further comprises: v) a screw means adapted to contact the moveable plate.

23 (withdrawn) The endplate of claim 1 wherein the means is adapted to be actuated magnetically.

24-27. (canceled).

28 (withdrawn)An intervertebral motion disc comprising: a) a prosthetic vertebral endplate component comprising: i) an outer surface adapted to mate with a vertebral body, ii) an inner surface having a first articulation surface suitable for supporting articulation motion first thereon, and iii) a body portion connecting the inner and outer surfaces, and b) a core member component comprising: i) a first articulation surface suitable for supporting articulation motion, wherein the articulation surfaces of the core

and endplate are adapted to form an articulation interface, and wherein one of the components is a sensor component comprising a Hall Effect sensor, and the other component is a magnetic component comprising a magnet.

29. (withdrawn) The disc of claim 28 wherein the magnetic component comprises at least two magnets.

30. (withdrawn)The disc of claim 29 wherein the magnetic component comprises at least three magnets.

31. (withdrawn)The disc of claim 29 wherein the at least two magnets are arranged in a asymmetrical manner.

32. (withdrawn)The disc of claim 28 wherein sensor component comprises no magnets.

33. (withdrawn) The disc of claim 28 wherein the prosthetic endplate component is selected as the sensor component, and the core component is selected as the magnetic component.

34. (withdrawn)The disc of claim 28 wherein the core component comprises a plurality of symmetric magnets and at least one asymmetric magnet.

35. (withdrawn) The motion disc of claim 28 wherein the endplate further comprises: iv) a controller/processor disposed within the body portion of the endplate.

36. (withdrawn) The motion disc of claim 28 wherein the endplate further comprises: iv) a battery disposed within the body portion of the endplate.

37. (withdrawn)The motion disc of claim 28 wherein the endplate further comprises: iv) a piezo-electric element disposed within the body portion of the endplate.

38 (withdrawn) An intervertebral motion disc comprising: a) a prosthetic vertebral endplate comprising: i) an outer surface adapted to mate with a vertebral body, ii) an inner surface having a first articulation surface suitable for supporting articulation motion first thereon, and iii) a body portion connecting the inner and outer surfaces, iv) at least one sensor disposed within the body portion, b) a core member comprising: i) a first articulation surface suitable for supporting articulation motion.

39. (withdrawn) The disc of claim 38 wherein the at least one sensor comprises a plurality of sensors.

40. (withdrawn) The motion disc of claim 38 wherein the endplate further comprises: v) at least one sensor disposed within the body portion of the endplate, wherein the sensor is selected from the group consisting of a pressure sensor, a chemical sensor and a force sensor.

41. (withdrawn) The motion disc of claim 38 wherein the endplate further comprises: v) a controller/processor disposed within the body portion of the endplate.

42. (withdrawn)The motion disc of claim 38 wherein the endplate further comprises: v) an energy delivery device selected from the group consisting of a battery and a capacitor, the energy delivery device being disposed within the body portion of the endplate.

43 (withdrawn)The motion disc of claim 38 wherein the endplate further comprises: v) a piezo-electric element disposed within the body portion of the endplate.

44 (withdrawn)The motion disc of claim 38 wherein the sensor is adapted to transmit data.

45 (withdrawn)The motion disc of claim 38 wherein the sensor is adapted to remotely transmit data.

46 (withdrawn)The motion disc of claim 38 wherein the sensor is adapted to transmit data to a means for self actuation.

47 (canceled).

48 (withdrawn)An intervertebral motion disc comprising: a) a prosthetic vertebral endplate comprising: i) an outer surface adapted to mate with a vertebral body, ii) an inner surface having a first articulation surface suitable for supporting articulation motion first thereon, and iii) a body portion connecting the inner and outer surfaces, and b) a core member comprising: i) a first articulation surface suitable for supporting articulation motion, and ii) at least one sensor.

49 (withdrawn)An intervertebral motion disc comprising: a) a prosthetic vertebral endplate component comprising: i) an outer surface adapted to mate with a vertebral body, ii) an inner surface having a first articulation surface suitable for supporting articulation motion first thereon, and iii) a body portion connecting the inner and outer surfaces, and iv) a sensor located upon the inner surface of the endplate, and b) a core member component comprising: i) a first articulation surface suitable for supporting articulation motion, wherein the articulation surfaces of the core and endplate are adapted to form an articulation interface, and wherein the sensor is adapted to determine a distance to the first articulation surface of the core member.

50 (withdrawn) The disc of claim 49 wherein the first articulation surface of the core member comprises a polymer.

51 (withdrawn)The disc of claim 50 wherein the polymer is polyethylene.

52 (withdrawn) The disc of claim 49 wherein the first articulation surface of the core member has a surface roughness Ra of no more than 50 um.

53 (withdrawn) The disc of claim 49 wherein the first articulation surface of the core member comprises a metallic material.

54 (withdrawn) The disc of claim 53 wherein the metallic material is selected from the group consisting of a titanium alloy, cobalt chromium and stainless steel.

55 (withdrawn)The disc of claim 49 wherein the first articulation surface of the core member comprises a ceramic material.

56. (withdrawn) The disc of claim 55 wherein the ceramic material is selected from the group consisting of alumina, zirconia and mixtures thereof.

57. (withdrawn)A spinal implant comprising: a) an upper surface adapted to bear against an upper vertebral body, b) a lower surface adapted to bear against a lower vertebral body, and c) a sensor located upon a surface of the implant.

58. (withdrawn) The implant of claim 57 wherein the sensor location is selected from the group consisting of the upper surface and the lower surface of the implant.

59. (withdrawn) The implant of claim 57 wherein the sensor is a force sensor adapted to measure a load transferred through the implant.

60. (withdrawn) The implant of claim 57 wherein the sensor is a load sensor is used to measure loads through a fusion device.

61 (withdrawn) The implant of claim 60 wherein the sensor is located upon an internal surface of a fusion device and is adapted to measure bony apposition upon the sensor.

62 (withdrawn) The implant of claim 57 wherein the sensor is a load sensor used to measure load uniformity through a spinal implant device.

63 (withdrawn) The implant of claim 62 wherein the load uniformity sensor used to determine load uniformity is used in conjunction with a motion device.

64 (withdrawn)The implant of claim 62 wherein the load uniformity sensor used to determine a degree of load uniformity at the interface between a prosthetic body and adjacent bone, thereby allowing the surgeon to determine whether bone resorption is occurring at that interface.

65 (withdrawn) The implant of claim 57 wherein the sensor is a force sensor adapted to measure a load transferred through the implant, and from the force sensor can be correlated with a set of force ranges that could be expected to appear when certain physiologic phenomena occur.

66 (withdrawn) The implant of claim 57 wherein the sensor is a chemical sensor.

67 (withdrawn)The implant of claim 66 wherein the chemical sensor is adapted to detect infection, inflammation, bone formation, or bone resorption.

68 (withdrawn)The implant of claim 57 wherein the chemical sensor is a bioMEMs device having a cantilever beam coated with a layer of material that is sensitive to high levels of chemicals or antibodies associated with either infection, inflammation, bone formation, or bone resorption.

69 (withdrawn) The implant of claim 68 wherein the layer of material is a binding partner molecule specific to the chemical, antigen or antibody associated with either infection, inflammation, bone formation, or bone resorption.

70 (withdrawn) The implant of claim 68 wherein the layer is selected from the group consisting of an enzyme, a peptide, a protein, a polysaccharide, a nucleic acid, a carbohydrate, an antibody molecule, an antigen molecule, a pharmacological agent (such

as a drug including a small organic molecule such as aspirin), a biopolymer, and a biochemical compound that reacts with one or more analytes or other biopolymers in a sample placed on the layer.

71. (withdrawn) The implant of claim 57 wherein the chemical sensor is adapted to detect single living cells.

72. (withdrawn) The implant of claim 57 wherein the sensor has a first beam length, and wherein the implant further comprises a second sensor having different beam length.

73. (withdrawn) The implant of claim 57 wherein the sensor has a first coating, and wherein the implant further comprises a second sensor having different coating.

74. (withdrawn) The implant of claim 57 wherein the sensor comprises a bioMEMs device having a cantilever beam coated with a layer of material that is sensitive to high levels of chemicals or antibodies associated with, inflammation, bone formation, or bone resorption.

75. (withdrawn) The implant of claim 74 wherein the layer of material is sensitive to at least one protein selected from the group consisting of CSF-1, RANKL, TNF-alpha, and an interlukin (preferably, at least one of IL-6, Il-1 alpha and IL-1 beta.

76. (withdrawn) The implant of claim 74 wherein the layer of material comprises a monoclonal antibody.

77. (withdrawn)The implant of claim 57 wherein the sensor is located upon an external surface of the implant.

78 (withdrawn) The implant of claim 77 wherein the sensor is located upon an external surface of the implant adapted to attach to bone.

79. (withdrawn) The implant of claim 78 wherein the sensor is adapted to determine a distance to a predetermined surface.

80. (withdrawn) The implant of claim 79 the sensor is adapted to determine a distance to a surface on a polymer component.

81. (withdrawn) The implant of claim 80 wherein the surface of the polymer component is adapted for articulation.

82. (withdrawn)The implant of claim 57 wherein the sensor is adapted to determine absorption of a specific wavelength of light by a specific volume of tissue.

83. (withdrawn) The implant of claim 82 wherein the sensor is adapted to determine absorption of light in the infrared spectrum.

84. (withdrawn) The implant of claim 57 wherein the sensor is adapted to determine a distance to a change in temperature.

85. (withdrawn) The implant of claim 84 wherein the sensor comprises a memory metal rod that deflects in response to a temperature changes.

86 (withdrawn)The implant of claim 85 wherein the sensor is further adapted to measure and respond to a significant deflection of the memory metal rod.

87 (withdrawn) The implant of claim 85 wherein the temperature sensor comprises a bimetal cantilever beam.

88. (withdrawn) The implant of claim 57 wherein the sensor is located upon an external surface of the implant.

89 (withdrawn) The implant of claim 88 wherein the sensor is located upon an external surface adapted to attach to bone.

90. (withdrawn) The implant of claim 89 wherein the sensor is adapted to sense at least one phenomenon selected from the group consisting of inflammation, temperature, infection, bone resorption, bone formation and bone deposition.

91. (withdrawn) The implant of claim 57 wherein the sensor is adapted to trigger the actuation of an actuator.

92. (withdrawn) The implant of claim 91 wherein the sensor is adapted to sense a change in the patient's local environment and then actuate a fluid reservoir in response thereto.

93. (withdrawn) The implant of claim 57 wherein the sensor is adapted to sense the presence of at least one compound associated with inflammation.

94. (withdrawn) The implant of claim 93 wherein the sensor is adapted to sense the presence of an inflammatory marker associated with degenerative disc disease or the degeneration of a facet joint.

95. (withdrawn) The implant of claim 57 wherein the sensor is adapted to sense the presence of at least one compound associated with bone resorption.

96 (withdrawn)The implant of claim 95 wherein the sensor is adapted to sense the presence of an inflammatory marker selected from the group consisting of an MMP, TNF-alpha, and an interleukin.

97 (withdrawn)The implant of claim 57 wherein the sensor is adapted to sense the presence of at least one compound associated with infection.

98 (withdrawn) The implant of claim 97 wherein the sensor is adapted to sense the presence of a microbe selected from the group consisting of staph. aureus and staph. epidermis.

99 (withdrawn)The implant of claim 97 wherein the sensor is adapted to trigger an actuator releasing an anti-microbial fluid, preferably an antibiotic.

100. (withdrawn) The implant of claim 57 wherein the sensor is a chemical sensor adapted to detect a local concentration of a constituent associated with bone formation or resorption.

101. (withdrawn)The implant of claim 100 wherein the constituent is an ion.

102. (withdrawn) The implant of claim 101 wherein the ion is selected from the group consisting of P, Ca, Mg, carbonate, and sulfate ions.

103. (withdrawn) The implant of claim 100 wherein the constituent is a growth factor.

104. (withdrawn)The implant of claim 103 wherein the growth factor is selected from the group consisting of a BMP, CDMP, TGF, PDGF and VEGF.

105. (withdrawn)The implant of claim 100 wherein the constituent is an enzyme.

106. (withdrawn)The implant of claim 100 wherein the constituent is an inflammatory mediator.

107. (withdrawn) The implant of claim 106 wherein the mediator is selected from the group consisting of TNF-a, an MMP and an interleukin.

108. (withdrawn) The implant of claim 100 wherein the constituent is a cell.

109. (withdrawn) The implant of claim 108 wherein the cell is selected from the group of bone-forming cells and a scar forming cells.